REMARKS

Applicant respectfully submits that all the claims presently on file are in condition for allowance, which action is earnestly solicited.

CLAIMS REJECTION UNDER THE DOCTRINE OF OBVIOUSNESS-TYPE DOUBLE PATENTING

Claims 1-52 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-70 of copending Application No. 10/458,554, now U.S. patent No. 6,834,005, on the ground that although the conflicting claims are not identical, they are not patentably distinct from each other.

In support of this rejection, the office action states that, with regard to pending claims, the present application recites a memory system and method of reading comprising:

- a magnetic tunneling junction,
- a magnetic medium comprising domain wall for an electric current passed through during reading operation,
- which is a mere broader version of the memory system and method reading disclosed in claims 1-70 of copending Application No. 10/458,554, now U.S. patent No. 6,834,005.
- The purpose of the reading device is to reduce the size and cost effectiveness of the magnetic memory device.

Applicant respectfully traverses these rejection grounds, and submits that the claims on file in the present application are not an obvious variation of the claims of U.S. patent No. 6,834,005, and are thus patentable thereover. As a result, a terminal disclaimer is not required to overcome the double patenting rejection. In support of this position, Applicant submits the following arguments.

A. Legal Standard for Obviousness

The obviousness-type double patenting rejection must be based on the obviousness standard of 35 U.S.C. 103(a). That is, differences between the claimed designs must be obvious to a person of ordinary skill in the art. The following legal authorities set the general legal standards in support of Applicant's position of non obviousness, with emphasis added for added clarity:

- MPEP 706.02(j), "**To establish a prima facie case of obviousness, three basic criteria must be met.** First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations**. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) ... The initial burden is on the

examiner to provide some **suggestion of the desirability** of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the **references must expressly or impliedly suggest the claimed invention** or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985)."

- **In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is** not whether the differences themselves would have been obvious, but **whether the claimed invention as a whole would have been obvious**. The prior art perceived a need for mechanisms to dampen resonance, whereas the inventor eliminated the need for dampening via the one-piece gapless support structure. "Because that insight was contrary to the understandings and expectations of the art, the structure effectuating it would not have been obvious to those skilled in the art." 713 F.2d at 785, 218 USPQ at 700 (citations omitted).

- MPEP §2143.03, "All Claim Limitations Must Be Taught or Suggested: To establish prima facie obviousness of a claimed invention, **all the claim limitations must be taught or suggested by the prior art**. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "**All words in a claim must be considered** in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim

depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)."

- "With respect to core factual findings in a determination of patentability, however, the **Board cannot simply reach conclusions based on its own understanding or experience** -- or on its assessment of what would be basic knowledge or common sense. **Rather, the Board must point to some concrete evidence in the record** in support of these findings." See In re Zurko, 258 F.3d 1379 (Fed. Cir. 2001).

- If the **proposed modification would render the prior art invention being modified unsatisfactory** for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

B. Application of the Obviousness Standard to the Present Invention

Applicant has tabulated below a comparison chart that clarifies the relationship between the claims of the present application and U.S. patent No. 6,834,005.

Present Application	U.S. patent No. 6,834,005
1. A data reading device, comprising:	
a magnetic tunneling junction **comprising layers of magnetic material selected from the group consisting of ferromagnetic material and ferrimagnetic material, wherein at least some of the layers of magnetic material are separated by at least one insulating layer**;	24. The shift register of claim 1, wherein the reading element comprises a magnetic tunneling junction.
a magnetic medium comprising at least one domain having domain walls;	1. A shift register, comprising: a track made of magnetic material and comprised of: a storage region that contains a plurality of magnetic domains for storing data; and a reservoir region that is contiguous to the storage region;
wherein an electric current is passed through the magnetic medium to selectively shift the domain walls in a direction of the electric current; and	wherein an electric current is applied to the track to shift at least some of the magnetic domains of the storage region, along the track, in a direction of the electric current, in and out of the reservoir region, in order to shift at least some of the stored data from the storage region to the reservoir region.
wherein data stored in the domain is selectively read by **disposing the magnetic tunneling junction in proximity to a fringing magnetic field from one of the domain walls, and by using the fringing magnetic field to detect a magnetic moment of the domain**.	

The foregoing table illustrates that the representative claim 1 of the present application claims an exemplary embodiment of a reading device for use with a magnetic medium. On the other hand, representative claim 1 of U.S. patent No. 6,834,005 claims an exemplary embodiment of the shift register that is made of magnetic material, without addressing the specifics of the reading element. Claim 24 of U.S. patent No. 6,834,005 recites that the reading element includes a magnetic tunneling junction, without reciting the specifics of the magnetic tunneling junction and the operation of the magnetic tunneling junction in conjunction with the magnetic medium.

In other terms, while U.S. patent No. 6,834,005 generally claims the embodiments of the shift register or magnetic medium, the present claims generally address the reading element and process using, for example only, the shift register of U.S. patent No. 6,834,005.

Moreover, the office action states in effect that what is claimed in the present application is a mere broader version of the memory system and method reading disclosed in claims 1-70 of copending Application No. 10/458,554 (now U.S. patent No. 6,834,005). As explained earlier and illustrated in the table above, the present claims cannot be characterized as either broader or narrower than the claims in U.S. patent No. 6,834,005. Rather, as explained earlier, the claims of the present application and of U.S. patent No. 6,834,005 address different subject matters that should not be compared in terms of breadth.

Furthermore, the office action states that the purpose of the reading device is to reduce the size and cost effectiveness of the magnetic memory device. Applicant respectfully submits that the purpose of the present reading device is not limited to reducing the size and cost effectiveness of the memory device of U.S. patent No. 6,834,005, but rather it generally provides a device and associated method for reading the data stored in the memory device.

As a result, based on the legal authorities above, the present claims are not obvious in view of the claims of U.S. patent No. 6,834,005, and are thus allowable.

CONCLUSION

All the claims presently on file in the present application are in condition for immediate allowance, and such action is respectfully requested. If it is felt for any reason that direct communication would serve to advance prosecution of this case to finality, the Examiner is invited to call the undersigned at the below-listed telephone number.

Respectfully submitted,

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